

**REMARKS**

The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

**Double Patenting**

The Examiner has provisionally rejected claims 1-2, 7-8, 10, 19, 20, and 23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21 and 23 of copending Application No.10/769,603.

Applicants respectfully submit herewith a terminal disclaimer to overcome the obviousness-type double patenting rejection.

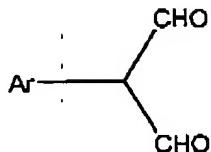
The Examiner has provisionally rejected claims 1-4, 7-8, 10, 19-20, and 22-23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9-11 and 16-17 of copending Application No.11/172,343.

Applicants respectfully submit herewith a terminal disclaimer to overcome the obviousness-type double patenting rejection.

**35 U.S.C. §102(b) Rejection - Klimko**

The Examiner has rejected claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by the article "*Functional Derivatives of Malodialdehydes and Their Reactions*", published in Zhurnal Obshchey Khimii, 1959, 29, pg. 4027-4029, by Klimko et al. (hereinafter referred to as "Klimko").

As amended, claim 1 pertains to a germicidal composition comprising "*a diluent; and a germicidally effective amount of a germicidal compound having the formula:*



wherein Ar is an aryl group selected from the group consisting of phenyl, 4-pyrimidinyl, and 2-(2-nitro-3-formyl-phenyl)".

The Examiner has commented that Klimko teaches the synthesis of phenylmalondialdehyde. However, Applicants respectfully submit that Klimko does not teach or reasonably suggest phenylmalondialdehyde is germicidal. Furthermore, Klimko absolutely does not teach or even suggest what a germicidally effective amount of phenylmalondialdehyde would be.

Accordingly, claim 1, and its dependent claims, are believed to be allowable.

### **35 U.S.C. §103(a) Rejection – Klimko, Yagi, Bratescu, and Duran-Patron**

The Examiner has rejected claims 3-4, 7-8, 10, 19-20, and 22-23 under 35 U.S.C. §103(a) as being obvious over, in view of U.S. Patent No. 6,429,220 B1 to Yagi et al. (hereinafter “Yagi”), U.S. Patent Application 2004/0071653 A1 by Bratescu et al. (hereinafter “Bratescu”), and the article “*Structure-Activity Relationships of New Phytoxic Metabolites with Botryane Skeleton from Botrytis cinerea*”, Tetrahedron, 55, 1999, pp. 2389-2400, by Duran-Patron et al. (hereinafter “Duran-Patron”).

Applicants respectfully submit that it is inappropriate to combine Klimko with Yagi, Bratescu and Duran-Patron. As discussed above, Klimko does not teach or reasonably suggest that phenylmalondialdehyde is germicidal. The Examiner has commented that a person of ordinary level of skill in the art would have been motivated to combine all of these dialdehydes in the same antimicrobial composition because dialdehyde functionalities are known to possess potent antibiotic properties as taught by

Duran-Patron. Duran-Patron more precisely discloses that most dialdehydes possess potent "bioactivities". Duran-Patron does not teach or suggest that most dialdehydes are potent germicides. Furthermore, there are literally hundreds of dialdehydes, but relatively few of these dialdehydes have germicidal efficacies as large as those of the compounds recited in the claimed compositions. It is well established that even though compounds may have similar functional groups, for example two aldehyde groups, the compounds may nevertheless have drastically different properties. As stated in Duran-Patron, "*small structural changes may modulate the biological activities considerably*" (see e.g., Introduction at page 2389). Even among the structurally similar compounds investigated in Duran-Patron, the activities were found to be quite "diverse" and the differences to be "dramatic". See e.g., the bottom of page 2393. Therefore, it is simply inappropriate to assume with any reasonable expectation of success that the whole genus of dialdehydes will have practically useful germicidal efficacies. Accordingly, Applicants respectfully submit that it is inappropriate to combine Klimko with Yagi, Bratescu, and Duran-Patron, since there is no disclosure in any of these references that the claimed compounds are germicides.

Furthermore, even if Klimko is combined with Yagi, which does not even seem appropriate, claims 10 and 19-24 would still not be obvious. Example 11 of the present patent application demonstrates that isophthalaldehyde (IPA) and a combination of IPA plus terephthalaldehyde (TPA) synergistically and unexpectedly enhance the germicidal efficacy of phenyl-molonaldehyde (PMA). Applicants respectfully submit that this rebuts a *prima facie* case that it would be obvious to combine PMA with IPA, or to combine PMA with a combination of IPA and TPA. Accordingly, claims 10, and 19-24 are believed to be allowable.

**Conclusion**

It is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

**Request For Telephone Interview**

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

**Request For An Extension Of Time**

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

**Charge Our Deposit Account**

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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Date: 5/12/06

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Attorney Docket No. 056301.P5007  
Application No. 10/769,598